LIGHT SOURCE DEVICE AND PROJECTION TYPE DISPLAY DEVICE

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Abstract of **JP8111107**

PURPOSE: To improve the utilization efficiency of the quantity of light emitted from a light source and also to equalize the brightness distribution of the display screen of a projection type display by installing both a mirror having the light source arranged in one of focuses in a closed reflecting surface having the plural focuses and a rodlike light guiding body respectively in a light source device. CONSTITUTION: An ellipsoidal mirror 30 has a first focus 32 and a second focus 33, and has a light source 20 arranged therein in such a manner that the emission center of the light source 20 may be squared with the first focus 32. Moreover, a rodlike transparent body 40 has an incident end surface 42a formed by the end surface of its incident side disk 42 while having an exit end surface 43a formed by the end surface of its exit side disk 43. The end surface 42a is for the purpose of taking in light and has its center equalized to the position of the second focus 33 in the mirror 30. A beam of light incident upon the end surface 42a can then be emitted entirely without any loss from the end surface 43a so as to heighten the operational efficiency of a light source device 10 to 70% of the quantity of light emitted from the light source 20 by approximately paralleling the beam of light emitted from the end surface 43a to a central axis 40a. The utilization efficiency of the quantity of light emitted from the light source 20 can consequently be improved, and the brightness distribution of the display screen of a projection type display can be equalized by forming the end surface 42a in such a manner that it may become slightly larger in area than the light source 20.